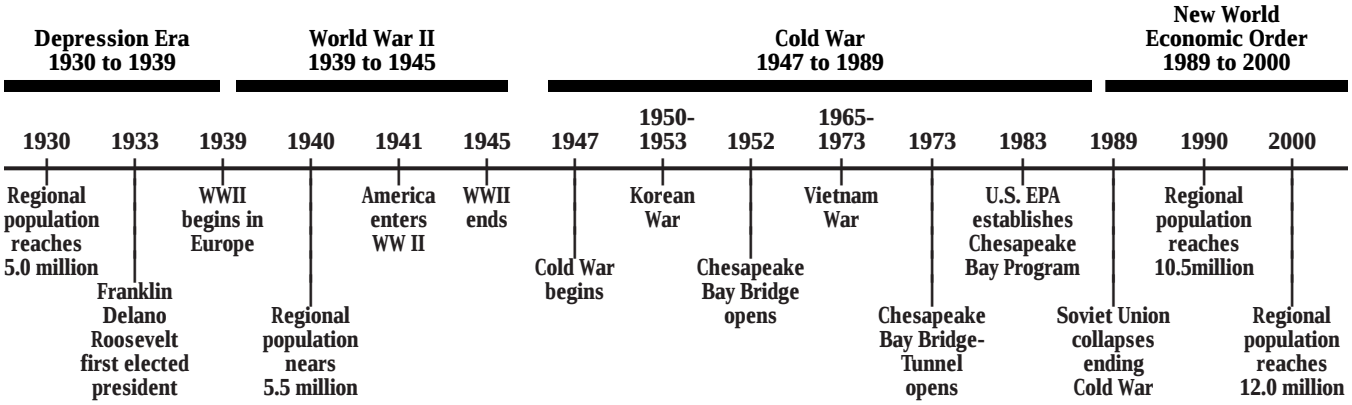
Chapter Nine

Chesapeake Metropolis, 1930 to 2000



AN ECOLOGY OF PEOPLE AND PLACE

☐ PEOPLE

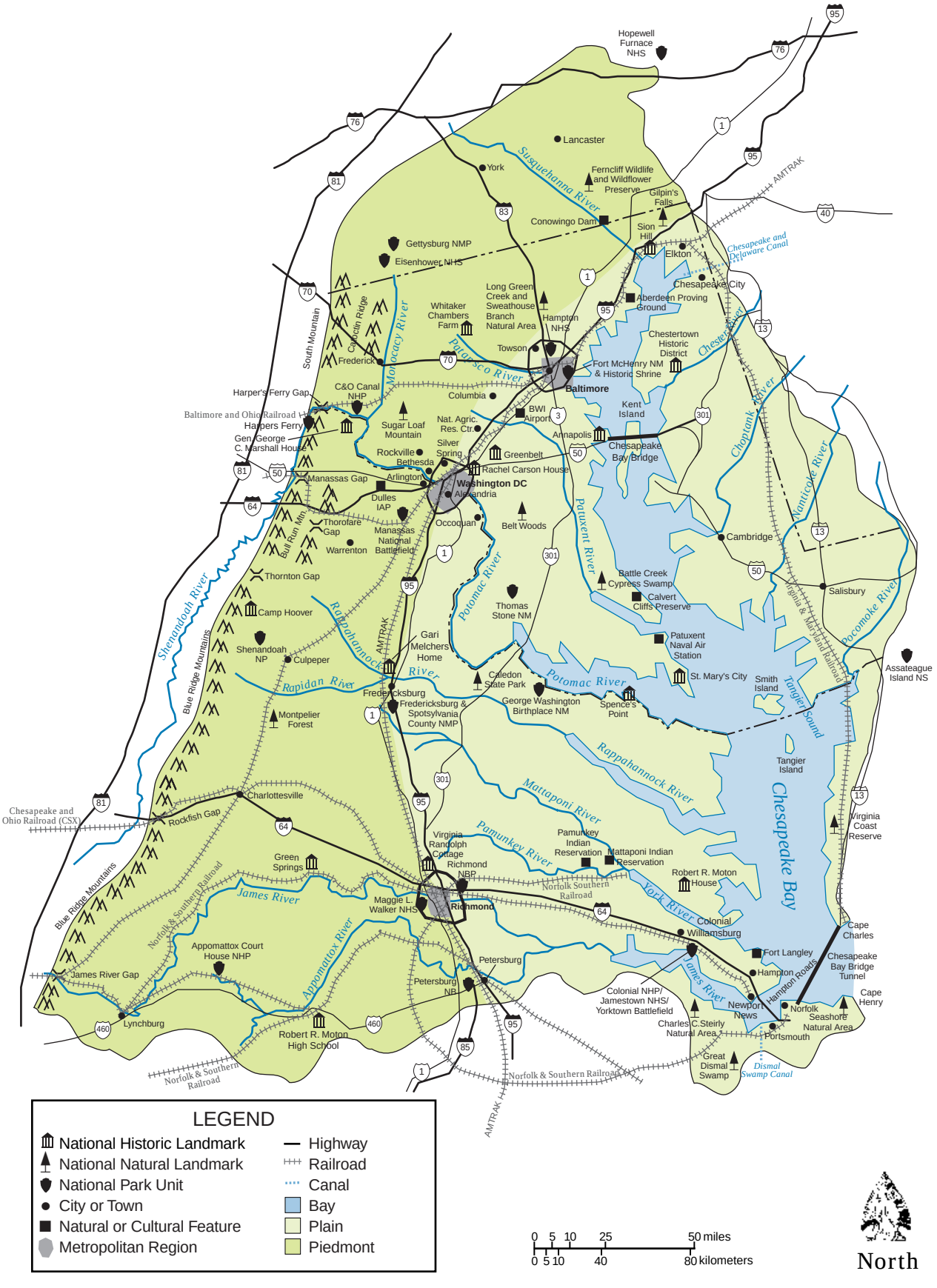
The 5 million inhabitants of the Chesapeake Bay region faced a terrible paradox in 1930 (see Map 11). On the surface, nothing seemed to have changed. Although population pressure had clearly left a mark on the region, fish still teemed in Bay waters, and farm fields still swelled with produce ready for market. The impressive technological advances that many believed would assure unending progress and prosperity had not disappeared. Yet for a second time in less than forty years, financial dealings and market forces beyond the average person's understanding had plunged Chesapeake Bay and the rest of the nation into a devastating economic downturn. This downturn is still known today as the Great Depression.

This depression was even worse than the one in 1893. Foreign markets collapsed as the American crash triggered a worldwide panic. Money and credit suddenly became hard to get. Factories, shops, and businesses closed, unable to raise

SIGNIFICANT EVENTS

- □ **1930–regional population reaches 5 million**
- □ **1932–Federal troops disperse bonus marchers in Washington**
- □ **1933–Franklin Delano Roosevelt elected to first term as president**
- □ **1935–Social Security Act passed by Congress**
- □ **1939–World War II begins in Europe**
- □ **1940–regional population nears 5.5 million**
- □ **1941–America enters World War II on Allied side**
- □ **1942–Pentagon opens in Arlington, Virginia**
- □ **1945–Harry S. Truman becomes president following Roosevelt's death**
- □ **1945–World War II ends**
- □ **1947–Cold War begins as Executive Order 9835 authorizes loyalty checks**
- □ **1948 to 1950–Alger Hiss spy case**
- □ **1950–postwar migration combined with baby boom increase regional population to 7 million**
- □ **1950 to 1953–Korean War fought between U. S.–led United Nations troops and Communist North Korean and Chinese forces**
- □ **1952–Chesapeake Bay Bridge opens**
- □ **1956–Federal Interstate Highway Act passed by Congress**
- □ **1958–National Defense Education Act passed by Congress**
- □ **1964–Economic Opportunity Act passed by Congress**
- □ **1965 to 1973–American military involvement in Vietnam**
- □ **1966–Historic Preservation Act passed by Congress**
- □ **1968–riots in Washington, Baltimore, and other Chesapeake cities**
- □ **1970–Amtrak established**
- □ **1972–Hurricane Agnes devastates region**
- □ **1973–Chesapeake Bay Bridge–Tunnel opens**
- □ **1973–OPEC oil embargo creates fuel shortages throughout region**
- □ **1983–Environmental Protection Agency establishes Chesapeake Bay Program**
- □ **1989–Cold War ends as Soviet Union collapses**
- □ **1990–regional population reaches 10.5 million**
- □ **2000–regional population reaches 12 million**

Map 11: Chesapeake Metropolis, 1930 to 2000



KEY LOCALES

NATIONAL HISTORIC LANDMARKS

District of Columbia

- Constitution Hall [1924-1930]
- Francis Perkins House [1937-1940]
- Sequoia (Presidential yacht) [1931-1977]
- Supreme Court Building [1935]

Maryland

- Rachel Carson House [1956-1964], Prince George's County
- Whittaker Chambers Farm [1948], Carroll County
- Greenbelt Historic District [1935-1946], Prince George's County
- Sion Hill [19th-20th centuries], Harford County
- Spacecraft Magnetic Test Facility [1966], Prince George's County

Baltimore City Landmarks

- Chesapeake (Lightship No. 116) [1930]
- College of Medicine of Maryland [19th-20th centuries]
- Elmer V. McCollum House [ca. 1920]
- U.S.S. Torsk [1944]

Pennsylvania

- Dwight D. Eisenhower Farmstead [1950s], Adams County

Virginia

- Camp Hoover [1929-1932], Madison County
- Gerald R. Ford, Jr. House [1955], Alexandria City
- Jackson Ward Historic District [19th-20th centuries], Richmond
- General George C. Marshall House [1925-1949], Loudon County
- Gari Melchers Home [1916-1932], Stafford County
- Robert R. Moton High School [1950-1974], Prince Edward County
- Robert R. Moton House [1935], Gloucester County
- Portsmouth (Lightship No. 101) [1900-1949], Portsmouth
- Virginia Randolph Cottage [1937], Henrico County
- Savannah (Nuclear ship) [1958], Newport News
- Spence's Point, John R. Dos Passos Farm [1806, 1940s], Westmoreland County

Arlington County Landmarks

- Charles Richard Drew House [1920-1939]
- Fort Myer Historic District [1900s]
- The Pentagon [1942]

Charlottesville Landmarks

- Shack Mountain [1916-1955]
- University of Virginia Historic District [19th-20th centuries]

Hampton City Landmarks

- EightFoot High-Speed Tunnel [1936-1956]
- Full Scale Tunnel [1931], Hampton
- Hampton Institute [1868-present]
- Lunar Landing Research Facility [1965-1972]
- Rendevous Docking Simulator [1963-1972]
- Variable Density Tunnel [1921-1940]

capital or meet payrolls (see Figure 100). Workers were fired and lost life savings as some banks failed and others foreclosed on heavily mortgaged homes, farms, and equipment.

The Depression hit hard everywhere in the Chesapeake Bay region. Tens of thousands of unemployed workers faced poverty in the cities and towns. Poor people in city tenements confronted the twin specters of homelessness and hunger. In the countryside, farmers and fishermen, making barely enough to live, struggled to hold on to their fields, boats, and implements. President Herbert Hoover's pleas for executives to hire back workers and increase production were ignored by corporations unable to sell products on depressed world markets.

As they did to Coxey's Army in 1894, federal troops scattered and burned a sprawling camp of 20,000 destitute veterans in 1932 (see Figure 101). These veterans had marched on Washington to get an advance on bonus money promised for their war service.

Figure 100: The Standard Oil Fleet in Mothballs during the Great Depression.
(Photograph courtesy of the Calvert Marine Museum Collection)

Figure 101: Bonus March Shacks Afire, Anacostia Flat, Washington, 1932.
(Photograph courtesy of the National Archives)

Later that year, Chesapeake Bay voters showed that they had lost faith in government assurances that prosperity was just around the corner. They helped vote a new Democratic administration into office. Franklin Delano Roosevelt, the newly elected president, started federally funded New Deal public works projects and direct relief programs to lower unemployment, stimulate recovery, and help the neediest citizens.

Workers employed by such new agencies as the Public Works Administration and the Civilian Conservation Corps began constructing or repairing highways, bridges, dams, and parklands throughout the Bay region and the nation. High tension lines soon carried electric current to rural towns and farms. This current was generated in new Piedmont hydroelectric complexes and Coastal Plain coal-fired plants. Steam locomotives hauled the soft bituminous coal burned in these plants from mines in Maryland, West Virginia, and Kentucky on improved rail networks.

During the late 1930s, world tensions worsened. The pace of production in regional factories and shipyards increased as the federal government hurried to arm the nation in response. The government began erecting large planned communities, such as *Greenbelt,* Maryland, to house low-income workers

Greenbelt, Maryland

GREENBELT HISTORIC DISTRICT. *Greenbelt, Maryland was the first of three "Greenbelt" towns built by the Federal Resettlement Administration around the outskirts of Washington, D.C. between 1935 and 1938 to house low and middle income inner city working families impoverished by the Great Depression. Built astride the Baltimore-Washington corridor near U.S. Route 1 in Prince George's County, Maryland, Greenbelt was a carefully planned and largely self-contained suburban community. Greenbelt was originally planned to accommodate 1,000 families. The Farm Security Administration expanded the community to house several thousand defense workers between 1941 and 1942.*

Greenbelt was constructed in accordance with "Garden City" lines. The Garden City movement emphasized the benefits of nature and community. Believing that contact with nature in highly ordered formal landscaped settings ennobled and enriched the human spirit–a belief long held by designers of gardens and parklands for the rich and well-to-do–Greenbelt planners made such benefits available to people of more modest means from the region's cities. The town itself was harmoniously laid out in a rural setting on a gently sloping crescent-shaped plateau open to cooling breezes and offering broad vistas of the surrounding farms and fields. Town buildings were constructing in a well-tended rustic setting of wooded parklands, winding trails, and a twenty-seven acre artificial lake.

Figure 102: Aerial View, Greenbelt, Maryland.
(Photograph courtesy of the National Park Service)

The structural organization of the place was intended to foster a strong sense of community. Rows of functionally designed modernistic frame and concrete-block housing units were clustered together in "super-blocks" (see Figure 102). Each unit had access to a garden plot and a service area. Underpasses connected super-block residences to a town common consisting of shops, police and fire-fighting facilities, a garage and gas station, and a community center that also housed an elementary school. A swimming pool, other recreational facilities, and allotment gardens tended by community residents were located behind the common. Free movement and open access was encouraged in every way. Fences were prohibited (hedges marked property lines), and footpaths linked all units in the complex.

employed in new suburban production plants. Yet hard times were not over for all citizens. New Deal policies helped relieve the worst effects of economic stagnation, but they did not end the Great Depression. Lingering unemployment and worker unrest fueled fears of left wing communist and right wing fascist revolution. Unwilling to depend on the promises of politicians and corporate managers, more and more workers in and around manufacturing centers in Lancaster, York, Baltimore, and Washington joined industrial unions. With the strength of the unions behind them, they could strike for jobs, higher wages, and better working conditions. But in more southerly parts of the region, workers did not join unions in large numbers, because they felt threatened by job loss and discouraged by the violence that authorities used to suppress strikes in areas believed to be more liberal, such as Pennsylvania's steel country and the Great Lakes industrial belt.

The outbreak of World War II in Europe in 1939 changed life in the United States dramatically. Although the nation remained neutral, President Roosevelt pledged to convert America into an arsenal of democracy. Programs such as Lend-Lease, which exchanged American weapons for access to British bases in the Western Hemisphere, strongly pushed military production. Higher wages, along with the draft deferments granted to workers in essential industries after the passage of the Selective Service Act in 1940, attracted men and women to war plants throughout the region.

Wartime mobilization in the United States followed the Japanese attack on Pearl Harbor on December 7, 1941 (see Figure 103). As far as the economy was concerned, this finally achieved what strikes and New Deal policies had failed to do. Although essential resources such as meat and gasoline were strictly rationed, economic conditions generally improved during the war years. Unemployment gradually disappeared when vast numbers of workers found jobs in industries that were changing to meet the military requirements of government contracts. Regional population swelled as hundreds of thousands of workers moved to Baltimore and other Chesapeake Bay locales to work in war plants manufacturing huge amounts of arms and munitions.

Figure 103: Interned German Liners Moored off Point Patience, Maryland Await Disposition, ca. 1940.
(Photograph courtesy of the Calvert Marine Museum collection)

Massive steel aircraft carriers, fast cruisers, and hundreds of smaller ships of all sizes and descriptions came out of shipyards in Newport News, Norfolk, Annapolis, Washington, and Baltimore. Textile mills along the fall line in places like Richmond and Petersburg wove fabric for uniforms and tents, and Virginia's Coastal Plain paper mills produced vast quantities of paper for the millions of documents and forms required to run the war effort.

Mobilization opened new opportunities for African Americans and women. A new generation of African Americans from rural areas moved to Chesapeake Bay cities and towns to work in war industries. And throughout the nation, huge numbers of women joined the workforce as millions of men were inducted into the armed forces. Thousands of women also volunteered to serve in newly organized support units such as the Women's Army Corps. Existing military bases were expanded and new ones were erected throughout the region. Hundreds of thousands of service men and women from all over the country trained in regional camps, airfields, and naval stations. Massive new administrative complexes and housing projects were constructed in and around Washington. The largest of the administration centers was the central military headquarters known as the *Pentagon*. It

Pentagon, Virginia

contained enough offices to accommodate 35,000 military and civilian employees. Officially opening its doors in Arlington, Virginia, in 1942, it is still the largest office building in the world (see Figure 104).

Figure 104: Aerial View of the Pentagon, Arlington, Virginia, 1973.
(Photograph courtesy of the U.S. Environmental Protection Agency and the National Archives)

Norfolk and Baltimore became major ports of departure for American forces bound for Europe and the Pacific. Many of the millions of men and women sent overseas during the fighting also reentered the nation through these ports after the war ended in 1945. Hundreds of thousands of American soldiers, sailors, and airmen had been killed and many more wounded, but the United States was the only major combatant whose homeland had not been devastated during the war. America held a world monopoly on nuclear weapons and had a newly developed military-industrial complex operating at peak capacity. In other words, the nation had grown into a superpower.

Whittaker Chambers Farm, Maryland

As it had done at the end of earlier wars, the government quickly ended rationing, and women workers again were replaced by returning servicemen. But the dawn of the nuclear age and the Soviet Union's development as a rival superpower compelled the government to break with the past in other ways. Although it had been forced to ally with the Communist nation during the war, the United States now feared the prospect of Soviet expansion abroad and Communist subversion at home. A new American administration, led by Harry S. Truman (the vice-president who became president after Roosevelt died in office on April 12, 1945), worked with Congress to keep a careful watch on Soviet activity and to spend generous amounts on defense. Federal agencies grew in size and number, opening headquarters in and around Washington. The various bureaus struggled to manage growing military funding and to oversee the new highway, airport, flood control, and other public works projects demanded by citizens, who were tired of wartime scarcities and had money to spend.

Federal employees worked in a government system that only a few years before had been openly allied with the Soviet Union. Because some employees might still be sympathetic to that country, there was concern about the possibility of a communist conspiracy. President Truman issued Executive Order 9835 in 1947, authorizing loyalty checks and establishing local loyalty review boards. Under the new policies, hundreds of government workers suspected of subversive leanings were fired from their jobs.

To expose those who were suspected and to unite the nation in a crusade against Communism, the government held public hearings and show trials. The most famous of these began in 1948, when a former Communist Party member, Whittaker Chambers, appeared before the House Un-American Activities Committee to accuse Alger Hiss, a former State Department official and presidential advisor, of being a Soviet agent. The evidence included some sensitive papers supposedly hidden at *Whittaker Chambers Farm*, which is now a National Historic Landmark. The Hiss case riveted the nation's attention on Washington as East-West tensions finally flared into what came to be called the Cold War. In 1948, Soviet forces blockaded Berlin in an attempt to force withdrawal of American, British, and French occupation troops. One year later, the Soviet Union exploded its first nuclear bomb. The Soviet nuclear threat and the Communist expansion in Eastern Europe, China, and the Korean peninsula created a great deal of fear in the United States. In Washington, politicians like Wisconsin senator Joseph R.

McCarthy whipped those fears into anti-communist hysteria.

Newspapers, newsreels, radio, and, increasingly, television, carried news of these and other developments into homes throughout the Chesapeake region and the rest of the nation. Those who wanted to send a public message to the government took advantage of Washington's position as the symbolic and communications center of the nation. The *Capitol Mall, Lafayette Park,* and other open spaces in the capital became backdrops for mass marches supporting or protesting various causes or policies.

With advances in mass media and air travel and new construction of intra coastal waterways and interstate superhighways, the United States was developing more of a national culture, and the growing Chesapeake Bay population was a part of that. Wartime research and Cold War defense budgets fueled advances in electronics, synthetics, and jet and rocket propulsion, which in turn boosted production and created new industries in the region and across the country. Postwar economic expansion also benefitted from the absence of significant competition from other nations, as well as from the easy availability of cheap imports and the eagerness of recovering, war-devastated foreign markets for American aid and exports.

The Chesapeake Bay regional population, which rose to nearly 5.5 million on the eve of American involvement in World War II, continued to grow in the postwar years. Some of the increase came through workers drawn to Chesapeake Bay war industries, who stayed in the area as the regional economy shifted to peacetime production. Vigorous public health programs administered vaccines, gradually eliminating ancient scourges such as polio, typhus, and diphtheria, which significantly lowered child mortality rates and increased overall health. The postwar baby boom also contributed to population growth. A new generation of young, upwardly mobile veterans married and began raising families. They were supported by G.I. Bill education benefits, medical services, and low-interest loans for homes, businesses, and farms. These families moved into homes of their own in rural districts, rented apartments in city neighborhoods, and flooded into new suburban developments in places like *Bethesda, Towson,* and *Silver Spring.*

Figure 105: Aerial View of the Dwight David Eisenhower National Historic Site, Gettysburg, Pennsylvania, retirement home of the Commander-in-Chief of Allied Forces in Europe during World War II and a significant Cold War American President. (Photograph courtesy of the National Park Service)

Capitol Mall and Lafayette Park, Washington, D.C.

Bethesda, Towson, and Silver Spring, Maryland

Single story, ranch-style tract houses–mass produced and easily affordable by veterans taking advantage of government programs providing mortgages at low interest rates–were built on small lots in closed, landscaped developments. These clusters of homes began to transform landscapes around Chesapeake Bay cities and towns. Shopping centers containing stores, diners, restaurants, movie theaters, and other services began to appear along nearby roads, in commercial districts known as strips. Large, enclosed shopping malls surrounded by huge parking lots first appeared in the region during the late 1960s.

Suburban, white collar workers first rode to city jobs in interurban light-rail cars, commuter trains, and buses. But they took to their cars as affordable automobiles, financed by low cost loans, poured off Detroit's production lines. Existing airfields, such as Washington's *National Airport,* were expanded, and such enormous new facilities as Maryland's *Baltimore and Washington International Airport* and Virginia's *Dulles Airport*

National Airport, Washington, D.C.

Baltimore and Washington International Airport, Maryland

Dulles Airport, Virginia

COLONIAL NATIONAL HISTORICAL PARK. *Established by Congress in 1930, this historical park, located on the Virginia Peninsula between the James and York Rivers, preserves buildings, structures, landscapes, and archeological sites associated with some of the major events in American history. A twenty-three-mile long scenic parkway built and maintained by the National Park Service (see Figure 106) passes from Jamestown, the site of the first successful English colony in America, past Williamsburg, Virginia's colonial capital, to Yorktown, the place where Cornwallis surrendered his army to Washington and Rochambeau following the final climactic battle of the Revolution on October 19, 1781.*

Figure 106: Colonial Parkway Vista at the Jamestown Island Isthmus, Virginia, 1996.
(Photograph by LANDSCAPES courtesy of the National Park Service)

Today, the National Park Service and the Association for the Preservation of Virginia Antiquities each own portions of the original Jamestown settlement. Williamsburg is owned and operated by the private non-profit Colonial Williamsburg Foundation established during the 1920s. The National Park Service administers the Yorktown battlefield. Colonial National Historical Park also encompasses four detached areas. Green Spring Plantation preserves the home of Virginia provincial governor William Berkeley. The Cape Henry Memorial marks the first landfall of the Jamestown colonists. Swann's Point preserves an unspoiled stretch of land near Jamestown. And Tindalls Point contains earthworks thrown up during the Civil War.

were constructed. Because people chose to use roads and airlines more and more often, passenger rail lines throughout the nation began to fail in the 1950s and 1960s.

In the cities, electrified trolley lines were replaced by buses powered by electricity, gasoline, and diesel. Lighter, cheaper, and more efficient diesel engines also replaced steam locomotives by 1960. Mostly, freight lines that served more northerly stretches of the Chesapeake Bay region shrank as competition from the trucking industry grew and demand for expensive hard anthracite coal collapsed. These included the Baltimore and Ohio, the Reading, the Erie, and the Pennsylvania railroads. Corporate mergers, diversification, and growing demand for the cheaper soft coal from West Virginia and Kentucky which was burned in Coastal Plain generating plants helped keep alive lines such as the Norfolk Southern and the Chesapeake and Ohio (now a subsidiary of a huge conglomerate, the CSX Corporation).

The growing numbers of cars and trucks traveled on existing, improved, or newly constructed highways. Some, like Colonial Parkway, were meticulously landscaped scenic routes passing through historic and nature preserves. Others, such as U.S. Routes, and later, limited-access freeways, were transportation arteries. These roads dramatically transformed the regional landscape. First built during the 1930s, U.S. Routes were the nation's first modern highway system. Most featured two or three lanes of all-weather, concrete-paved roadways. Each ran on heavily graded roadbeds that cut through hills and other elevations and that crossed steel-frame and reinforced concrete bridges and causeways spanning rivers, swamps, and valleys. Access to these roads generally was open, and signs and traffic lights controlled intersections and regulated pedestrian and automobile traffic.

Commerce and industry developed along stretches of U.S. Routes in and

near cities and towns. New types of roadside establishments appeared, including diners, fast food stands, and motels. Owners used flamboyant, eye catching architectural signs and displays to draw in passing motorists. Many of these were made of newly available and extremely flexible materials such as aluminum and plastic. Entirely new forms of buildings appeared as business owners turned the very shapes of their establishments into advertisements. Buildings in the shapes of hamburgers, hot dogs, and ice cream sodas began to sprout up on the sides of regional roads.

After the Federal-Aid Highway Act of 1956 was passed, even larger Interstate highways–limiting access to controlled interchanges and permitting high speed travel unhampered by stop lights–were constructed. Unlike earlier roads, Interstates were entirely self-enclosed, park-like landscapes cutting wide paths through cities and countryside. The absence of traffic lights and the wide, concrete and asphalt surfaced roadways, level grades, and gradual, gentle curves speeded traffic. Drivers could enter and leave the roads only at ramped or cloverleaf shaped interchanges (see Figure 107). Gas stations, motels, restaurants, and, later, shopping centers and malls showed up more and more at these interchanges.

Road construction sparked several major engineering achievements in the region. The wide waters of the Bay itself were first bridged when the *Chesapeake Bay Bridge* was completed in 1952 (see

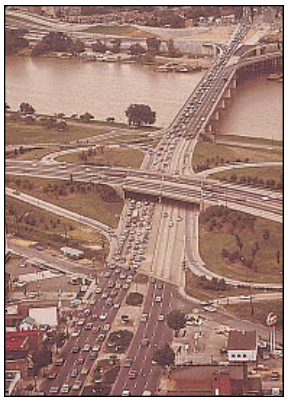


Figure 107: Traffic at the Junction of Interstate 295 and the Anacostia Bridge, Washington, 1973. (Photograph courtesy of the U.S. Environmental Protection Agency and the National Archives)

Figure 108: Chesapeake Bay Bridges, June, 1973. (Photograph courtesy of the U.S. Environmental Protection Agency and the National Archives)

Figure 108). It carries U.S. Route 50 across the narrows dividing Maryland's Eastern and Western Shores above Annapolis. In 1973, an even more impressive achievement was scored when the 17.6-mile *Chesapeake Bay Bridge-Tunnel* linked the Eastern Shore with the mainland at Virginia Beach. These and other bridges and tunnels replaced ferries and significantly reduced travel times. Corporations and factories began moving from cities–which were increasingly choked by truck traffic and commuter gridlock–to spacious suburban campuses and business parks close to workers' homes. Urban business districts began to decay as growing numbers of enterprises moved to suburban shopping centers, supermarkets, and malls. These were conveniently located near major thoroughfares and surrounded by ample parking lots.

During the 1960s, Chesapeake Bay cities became sites of mass marches as civil rights demonstrations and Vietnam War protests swept the nation. Washington in particular again became a symbolic focus of American political protest (see Figure 109). Fine arts and popular culture still flourished in Chesapeake Bay cities, but urban sewage, roadway, and other infrastructure systems crumbled and services declined as taxpaying homeowners and businesses moved out. Soon, only poor people who could not afford to move remained in the region's dilapidated inner-city neighborhoods. New waves of Puerto Rican, Cuban, and West Indian immigrants joined poor people already living in the new urban

Chesapeake Bay Bridge-Tunnel, Virginia

Chesapeake Bay Bridge, Maryland

Figure 109: Civil Rights March on Washington, August 28, 1963. (Photograph courtesy of the U.S. Information Agency and the National Archives)

ghettoes. Unemployment, illiteracy, alcoholism, drug addiction, and an enduring sense of hopeless despair grew. Alarmed by the seemingly simultaneous emergence of so many serious problems, some social scientists of the time began fearing that this combination was creating a persistent and self-perpetuating culture of poverty.

Washington, D.C., presented the clearest example of the chasm separating rich and poor in America's cities. The city boasted the highest per capita income levels in the nation. At its center lay the glittering stone edifices and monuments of the capital of the world's foremost superpower. Yet more than 40 percent of the city's population lived below the poverty line in 1962, when Michael Harrington's influential book, *The Other America*, exposed the fact that 40 million Americans suffered from the effects of hunger, joblessness, and substandard housing, education, and medical care. Washington's mostly African American poor lived in vast squalid, rundown, and rat-infested ghettoes just beyond the gleaming city center (see Figure 110).

Like many other city governments in the region and the nation, Washington officials tried to address the problems of urban decay by demolishing entire districts of rundown housing in urban renewal projects. Federal Great Society assistance programs, such as federal welfare, Medicaid, and food stamps, failed to eliminate poverty. Anger in poor communities grew as people of minority groups carried an unequal share of the fighting in what many considered a colonialist war in Vietnam. Then the assassination of Martin Luther King, Jr. sparked riots during the summer of 1968. Rising up in frustration, inner city residents in Washington, Baltimore, and other American cities burned homes and businesses in their own neighborhoods.

Figure 110: Slum Alley Behind the Capitol, 1935 (Photograph by Carl Mydans courtesy of the Library of Congress)

Richard M. Nixon's election as president that year failed to end the Vietnam War. The nation was already demoralized by urban turmoil and challenged by counterculture criticism of traditional values. It reeled when American forces left Vietnam after an inconclusive cease-fire agreement was signed in 1973. One year later, Nixon became the first president in American history to resign from office in disgrace. Then the first OPEC oil embargo, in 1973-1974, caused an oil shortage that signaled the end of the era of cheap energy. Chesapeake Bay and the rest of the nation began to experience growing inflation, and economic recession followed.

Decline in the quality of American-made goods and rising demand for cheaper and better designed and engineered Japanese and West German products meant that Americans bought more imported goods than they sold as exports. This dramatically increased American trade deficits. In 1970, several major ailing railroads turned their passenger service over to the federally administered *National Rail Passenger System*, commonly known as Amtrak. After drastically cutting service, Amtrak devoted most of its resources in the region to developing the moneymaking northeastern corridor route, which links cities between Washington and Boston.

National Rail Passenger System (Amtrak)

Throughout the nation, corporations shut down plants and closed offices as profits declined. Inflation and soaring interest rates devastated productivity and lowered consumption. The situation became much worse when OPEC ministers cut oil production and raised prices more than 300 percent in 1979. Long lines of cars blocked traffic as cars queued up for suddenly scarce and expensive fuel. People throughout the region began to talk seriously about solar power and other energy alternatives to

end dependence on prohibitively expensive and increasingly unreliable foreign oil supplies. The public was already worried about the dangers of nuclear technology, and the 1979 *Three Mile Island* reactor accident just north of the Chesapeake Bay heartland ended hopes that cheap atomic power would be the answer to the energy crisis. Diplomatic setbacks, such as the 444-day Iran hostage crisis, and widely unpopular political acts, such as President Jimmy Carter's 1977 decision to sign the treaty returning the Panama Canal to Panamanian sovereignty, further eroded people's confidence in their nation's future.

Chesapeake Bay voters helped elect Ronald Reagan president in 1980. They were responding to his pledges to restore American pride and revive the nation's depressed economy by abolishing restrictive government regulations, reducing taxes, ending deficit spending, and encouraging investment. Ironically, like Franklin Roosevelt before him, Reagan used federal funds to spend the nation out of recession. He began by repudiating the policy of détente, begun by Nixon, that maintained an uneasy coexistence with the Soviet Union. Committing the nation to victory in the Cold War, Reagan started an aggressive program of spending to rebuild the nation's military establishment. Orders for a modernized navy of 600 ships restored activity in Chesapeake Bay shipyards. Newly manufactured interceptors and bombers crowded onto the flight lines of *Andrews Air Force Base* and other facilities in and around Washington. Laboratories in Maryland and Virginia received billions of research dollars to develop the Strategic Defense Initiative. This space-based anti-missile system, popularly known as Star Wars, was to be capable of shielding the nation from ballistic missile attack.

Dramatic developments in electronic automated technologies during the 1980s further spurred productivity in the region. The collapse of the Soviet Union, which had been bankrupted by the Cold War arms race, opened formerly closed international markets and encouraged increased production of goods for domestic and foreign markets. The pace of recovery quickened as a result. Overall regional population also rose dramatically, increasing from 9 million to more than 12 million people between 1970 and 2000.

Three Mile Island, Pennsylvania

Revived by the national economic recovery, Chesapeake Bay corporations worked with city governments and community activists to redevelop rundown downtown districts and restore poverty blighted neighborhoods. Baltimore's *Inner Harbor* development encouraged construction of new high-rise office buildings, lured tourists to new attractions such as the *National Aquarium*, and attracted young families to restored town houses in newly gentrified neighborhoods. In Washington, renovated landmarks, such as *Union Station*, and massive new construction revived the city center. Similar developments in other Chesapeake cities reflect the remarkable economic recovery that has stimulated growth throughout the region at the close of the twentieth century.

Inner Harbor and National Aquarium, Maryland

Union Station, Washington, D.C.

☐ PLACE

The dramatic changes outlined above have left a seemingly permanent mark on Chesapeake Bay lands, waters, and skies. The overall number of people living in the Chesapeake Bay region more than doubled in this period, from 5 million at its beginning to more than 12 million at its end. Much of this growth, and the development accompanying it, has happened in the major suburban complexes surrounding Baltimore and Washington, in the smaller Richmond and Hampton Roads metropolitan areas, and around freestanding towns such as Lancaster and York, Pennsylvania.

Andrews Air Force Base, Maryland

Although Washington continues to limit the height of its buildings, skyscrapers today rise into the skies above most other Chesapeake Bay downtown districts. Glass clad towers also cluster together in suburban office parks and around Dulles, Baltimore-Washington International, and other regional airports and transportation centers. Long ribbons of highway link suburban residential developments,

Newport News Shipyard, Virginia

commercial strips, and industrial parks that sprawl across former wetlands and farm fields. Intensive development, spurred by population growth and changing real estate values, has changed as much as 70 percent of the total land area in regional metropolitan centers. Overall, agricultural, residential, and industrial development has affected more than 40 percent of all lands in the region.

The environmental effects of this development have been dramatic. Wetlands, which had long been thought of as breeding grounds for disease and as waste lands best used as garbage dumps and landfill sites, have been particularly hard hit. The 1.2 million acres of wetlands remaining in the region today represent only a fraction of former acreage.

Conowingo Dam, Pennsylvania

Chesapeake Bay continues to be one of the nation's busiest and most economically important maritime corridors. A workforce of 17,000 men and women working on Bay waters annually catch and process one-quarter of all oysters and one-half of all clams consumed in America. The yearly haul of 95 million pounds of blue crabs is the largest such harvest in the world. Bay waters support an active sport fishery and provide recreation to millions of bathers and boaters. Bridges and boats allow penetration of formerly remote parts of the Bay, which has sparked tensions between fishing and tourism interests.

More than 10,000 oceangoing vessels carry 100 million tons of cargo every year to port facilities at Baltimore, Hampton Roads, and smaller harbors. Sheltered anchorages at the mouth of the region's rivers require constant dredging, which is shown by the number of former Bay ports that no longer exist. The Bay's already shallow waters also require periodic dredging to keep shipping lanes open. Although channel clearing has high costs in money and environmental impact, to many people the Bay's economic importance as a major trade corridor justifies the expenses. Waterborne commerce accounts for one-fifth of all jobs in Maryland and 15 percent of the state's gross national product. Farther south, the *Newport News Shipyard* is Virginia's largest employer.

The first half century of metropolitan development created pollution, overexploitation, and environmental degradation that had effects still felt today. Between 1930 and 1980, easterly winds carried airborne pollutants that billowed from chimneys of coal-fired generating plants, steel mills, and other smokestack industries in the nation's heartland. These pollutants spread an uncontrolled pall of acid rain over the region's lands and waters. During this same period, unregulated industries from as far north as central New York and as far west as West Virginia poured untold quantities of heavy metals, petrochemicals, hydrocarbons, mining wastes, and other nonbiodegradable pollutants into streams flowing into Chesapeake Bay. So much anthracite coal waste was dumped into the Susquehanna River at Scranton, for example, that it has become economically feasible to dredge coal from sediments trapped within the still waters impounded by the *Conowingo Dam* (see Figure 111) and other barriers thrown across the lower river to store water and generate hydro-electric energy.

Eroded soils and vast amounts of nitrogen, phosphorus, and synthetic chemicals used in pesticides and fertilizers washed from farm fields. Individual homes and entire municipalities pumped human waste, detergent phosphates, and other sewage into regional rivers. Passing ships discharged oil and other wastes into open Bay waters, introducing foreign diseases and pests along with the pollution and posing a constant

Figure 111: Conowingo Dam Across the Susquehanna, ca. 1920-1950. (Photograph by Theodor Horydezak courtesy of the Library of Congress)

threat of catastrophic spills and leaks. Toxic chemicals, such as DDT and other pesticides, also inadvertently killed off bald eagles in the region and devastated other species. Some newly introduced species, such as nutria, brought into the region to provide a new source of fur and flesh, grew to such large populations that they threatened established animal communities. Over-hunting and industrialized commercial harvesting threatened the survival of Bay shellfish, fin-fish, and wildfowl.

Figure 112: Shore Erosion at Governor's Land on the Chickahominy River, Virginia, 1990. (Photograph courtesy of the National Park Service)

Environmental conditions in the Chesapeake Bay region had deteriorated alarmingly by 1970. Vast areas seemed covered by pavement and unsightly development. The region's old-growth forests were gone–replaced by human habitations, highways, farm fields, or pines planted for quick harvest. Washing away exposed topsoil, erosion also ate at the region's shorelines (see Figure 112). Industrial pollution fogged the air and polluted waterways (see Figure 113). Smog choked city skies and acid rain threatened to turn formerly thriving regional lakes into lifeless lagoons. Water pollution was so bad in major regional waterways that the Susquehanna, Potomac, and James Rivers seemed little more than open sewers. Numbers of shad dropped dramatically after construction of dams across the lower Susquehanna blocked their spawning runs. Bay wildlife lost essential habitat as increasing amounts of wetlands were drained and buried under dumped garbage, dredge spoil, and other landfill.

The open waters of the Bay also showed unmistakable signs of environmental degradation. Over-harvesting threatened most economically important fish, shellfish, and wildfowl. Oyster and softshell clam production plummeted when newly introduced diseases ravaged shellfish communities. Red tides, algae and plankton blooms, and noxious chemicals poisoned the Bay as murky waters, clogged with sediment, blocked life-giving sunlight. Recovering from devastation caused by newly introduced foreign plant diseases during the early 1930s, eelgrasses and other water plants providing

Figure 113: A Hazy Day at the Bethlehem Steel Plant, Sparrow's Point, Maryland, 1973. (Photograph by the U.S. Environmental Protection Agency courtesy of the National Archives)

food and shelter to numerous species were increasingly crowded out by sudden expansions of hydrilla and Eurasian watermilfoil. Abrupt increases in the salt levels of Bay waters, for example, allowed watermilfoil to expand explosively, covering almost 50,000 acres of Bay bottom in 1960 and twice as much acreage one year later. Although local environmental conditions hostile to their growth caused watermilfoil plants to die off within a year of their appearance, their sudden and catastrophic expansion left an enduring mark on Bay water plant life. A survey conducted in 1978, for example, found that only 40,000 acres of Bay bottom was covered by submerged aquatic vegetation of any type. This is only a tiny percentage of the total amount of acreage covered by aquatic plants in earlier times–specialists think that vast meadows of underwater grasses and other submerged aquatic vegetation may have covered as much as 600,000 acres of Bay bottom at the time colonists first set foot on Chesapeake shores.

Chesapeake Bay Program

Water plants starved for light in cloudy Bay waters. Periodic catastrophes, such as Hurricane Agnes, which hit the region in 1972, also washed away entire communities of submerged aquatic vegetation. Destruction of oxygen producing plants combined with the oxygen robbing process of decomposition to create a condition known as anoxia, a lowering of the volume of dissolved oxygen in the water. Because oxygen is needed to support aquatic life, the lack of it increased the loss of plants and animals.

Commercial catches of striped bass dropped from 15 million to 2 million pounds per year in a single decade. Knowing that 90 percent of striped bass on the east coast spawned, matured, and fed in the Bay, the alarmed Maryland authorities banned all fishing of striped bass in state waters. Virginia also moved to limit catches of threatened species.

Concerned about both the long-term degradation of the regional environment and the sudden and enormous devastation caused by Hurricane Agnes, many Chesapeake Bay residents welcomed passage of the Federal Clean Water Act in 1972. The act established uniform water quality standards, placed limits on types and amounts of pollutants poured into rivers, and required construction of new sewage lines and water treatment plants (see Figure 114). One year later, Senator Charles Mathias of Maryland began supporting studies to assess the impacts of industry, municipal governments, agriculture, development, and rising population on the Chesapeake Bay environment.

Figure 114: Water Filtration Plant, Occoquan, Virginia, 1973.
(Photograph by the U.S. Environmental Protection Agency courtesy of the National Archives)

George Washington National Forest, Virginia

National Agricultural Research Center, Maryland

The findings from these and other studies led the United States Environmental Protection Agency to establish the *Chesapeake Bay Program* in 1983. This innovative partnership coordinated the efforts of government agencies, preservationists, and concerned citizens in the 64,000-square-mile Chesapeake Bay basin. The program provides technical assistance, research support, and a forum for airing issues relating to the maintenance and restoration of the region's environment. Program partners have pledged to work together to reduce industrial pollution, increase acreage covered by wetlands and submerged aquatic grasses, restore plant and animal communities, and help farms and municipalities reduce the amount of nutrients flowing into Bay waters by 40 percent by the year 2000.

Several major successes have been scored since 1983. Bald eagle populations rebounded significantly between 1989 and 2000. Releases of chemicals from factories, sewage systems, and farm fields decreased more than 55 percent during the same period. Careful management of fertilizers, insecticides, and sewage is producing significant declines in harmful mineral and nutrient concentrations in Bay sediments and waters. And acreage covered by submerged aquatic grasses has increased more than 60 percent since 1984.

Federal, state, and municipal laws and ordinances currently give varying levels of protection to threatened cultural and natural resources in the region. The region currently has seventy State Parks and Forests, fifty State Game Lands and Wildlife Management Areas, forty-two National Parks, sixteen military installations, ten National Wildlife Refuges, and two Department of Agriculture facilities–the *George Washington National Forest,* in Virginia, and the *National Agricultural Research Center,* in Maryland. Web sites listing these facilities and providing other information about any of them may be found in the *Sources* section of this volume. The personnel at these sites work vigorously to enforce protective regulations on more than 1

million acres of public land in the Chesapeake heartland. Public utilities and private organizations are increasingly forming partnerships with agencies at all levels of government to restore the environment.

Although these and many other improvements provide good reasons to be optimistic about the restoration of the environment, much remains to be done. High nutrient levels in Bay waters, which are believed to be responsible for turning a usually harmless microscopic dinoflagellate named pfisteria into a highly toxic killer of fish in 1997, must be reduced. Increases in development rates lead to corresponding decreases in forest acreage and waterfowl habitat, showing how humans can transform the environment. Because of this impact, people must care for their environment as they work to build strong futures for themselves, their families, and their communities.

EMERGENCE OF A METROPOLITAN CULTURAL LANDSCAPE

☐ PEOPLING PLACES

Population rise and redistribution have had dramatic impacts on the regional cultural landscape during this period. As people were drawn to the region's cities in search of employment during the Depression, the growing population prompted more expansion of concentrated downtown administrative and business districts. Growth required the construction of expanded public transportation systems and the massive development of city services and utilities. Although the economic slump hampered development, existing shopping and entertainment districts were enlarged. Private apartment blocks, town houses, and residences also were constructed or renovated. Urban power and water authorities, struggling to meet the needs of growing populations, constructed dams, reservoirs, and generating plants in rural parts of southeastern Virginia's Coastal Plain and the Maryland and Pennsylvania Piedmont.

Wartime development stimulated growth in the Washington metropolitan area and in other urban centers where war industries were located. Although Washington continued to grow dramatically after the war, urban development elsewhere in the region began to slow during the 1950s and 1960s. Population profiles in city centers began to change as businesses and jobs moved out to the suburbs. City populations became poorer. Development in cities increasingly shifted from construction of new business buildings to erection of publicly funded housing projects and other programs providing affordable housing to low income families.

The focus of private development shifted to the rural areas surrounding regional cities as rising regional populations relocated to new suburbs. Many older rural villages became suburban enclaves. Entirely new communities also rose up everywhere in the region. Buying up available farmlands and filled wetlands, developers dropped clusters of mass-produced residences onto landscaped tracts. Schools, gas stations, fire houses, diners, drive-in movies, and quickly constructed shopping centers surrounded by paved parking lots soon appeared nearby. Local governments, unwilling to limit additions to their tax rolls, did little to regulate suburban sprawl, and at first it proceeded haphazardly.

Alarmed by the sprawling, unsightly landscape resulting from unplanned development, communities quickly began to put zoning regulations in place. Ordinances soon set limits on housing lot sizes, determined where businesses could be operated, mandated that structures be set back certain distances from roadways, and required adequate parking.

New mini cities of steel-framed, glass-clad high-rises sprouted up at the cores of new suburban concentrations in places such as *Arlington, Columbia, Bethesda,* and *Silver Spring* during the 1970s. Larger and more imposing skyscrapers appeared in rehabilitated water-

Arlington, Virginia

Columbia, Bethesda, and Silver Spring, Maryland

front downtown districts such as Baltimore's Inner Harbor as the economy began recovering during the 1980s. Drawn by the region's healthier economy, new generations of Asian, African, and Latin American immigrants established new communities in old residential districts in Chesapeake Bay cities and towns by the 1990s. Signs in their native languages that marked churches, gathering places, and business establishments added new diversity to the region's cultural landscape.

☐ CREATION OF SOCIAL INSTITUTIONS

Massive social change and mobility marked the years of this period. As more people acquired cars, many established neighborhood communities were transformed and new ones created. Increased prosperity in the years after the Great Depression brought an era of social mobility unlike any before. Substantial numbers of working class people, employed in regional industries and supported by programs such as the G.I. Bill, saw their children enter the ranks of the middle class. Increased educational opportunity and longer periods of education allowed people to train for new, highly skilled jobs. They also delayed some workers' entry into the workforce, which prevented flooding of the labor market. As women fought for equal rights and equal pay and groups who had suffered racial or ethnic bias fought against laws enforcing statutory segregation and racial discrimination, new opportunities opened for them.

Changing patterns of work and employment transformed family dynamics everywhere. The cost of living rose as living standards improved, and households soon required incomes from all adult residents. Divorce rates rose as economic opportunities and changing values made it seem more plausible for some people to live alone. Residence sizes reflected this trend, generally becoming smaller as smaller nuclear, one-parent, and single households replaced earlier multi-generational families.

The movement of hundreds of thousands of migrants from other parts of the country and the world to a new region where most were strangers increased reliance on services provided by churches, philanthropic societies, social clubs, and other community institutions. Many old institutions closed or relocated. New and old ethnic, religious, and cultural associations renovated or erected new community centers, meeting halls, recreational facilities, hospitals, rest homes, and cemeteries throughout the region. Inspired by the civil rights movement and its Indian equivalent, then known as Red Power, Native American people throughout the region began reasserting their cultural identities.

Government played a greater part in social life during this period. Passage of the Social Security Act in 1935 created the nation's first social welfare system. Taxes paid by employers and withheld from employee wages helped fund a plan that provided unemployment compensation, aid for the infirm and for dependent mothers and children, pensions, and payment to survivors' families. Because it gave benefits to workers, the Social Security system did not help a new generation of poor people who were unable to find work during the prosperous postwar decades.

In 1964, President Lyndon Baines Johnson moved to address this new form of poverty by sponsoring passage of the Economic Opportunity Act, which extended medical services and financial relief to the needy. Passed at a time when the nation found itself drifting toward war in Vietnam, this centerpiece of Johnson's ambitious Great Society program helped millions of people. But it did not end poverty. Congress was unwilling to raise taxes to the level needed to simultaneously fight the war on poverty, the Cold War, and the fighting in Vietnam. So it failed to raise the funds needed to establish long-term programs that might have wiped out need in American society.

But public monies did underwrite a massive school building program throughout the 1960s. Colleges offering baccalaureate degrees and universities supporting

graduate study programs were enlarged and expanded. Two-year community and junior colleges were built in many counties. New commuter campuses emerged in Chesapeake Bay cities. And public and private funds also supported construction of new meeting halls, conference centers, and other community social facilities.

New community self-help programs were created to address social problems when the federal government moved to limit its involvement in social welfare programs during the 1980s. Workfare began to replace welfare as the federal government turned over control of relief programs to the states. Federal intervention in social life further diminished as agencies increasingly worked to create partnerships, such as the Chesapeake Bay Program, to coordinate the voluntary efforts of state governments, municipalities, service organizations, private corporations, and individuals.

☐ EXPRESSING CULTURAL VALUES

The Chesapeake Bay region became a center of American cultural expression in the decades following 1930. Although New York and Hollywood had become centers of American style, Washington's monuments, meeting halls, and mall had become stages on which policymakers, trend-setters, and demonstrators set much of the cultural tone of the nation. This tone has shifted continually, from the self-righteousness of the Progressive Era, the hardheaded practicality of the Depression and war years, the self-assuredness of the Cold War, the turbulent changes of the 1960s, and the rise of identity politics pressing agendas of particular ethnic groups, religious viewpoints, and gender orientations, to the present struggle to find a place in the emerging world economic order.

Chesapeake region newspapers carried the latest news, as well as the views and opinions of influential writers such as Art Buchwald. The Watergate scandal and the popular film, *All the President's Men* (1976) helped propel the *Washington Post* into national prominence. Washington also became the scene of countless novels and the backdrop of hundreds of filmed dramas, thrillers, mysteries, and comedies.

Motion pictures have also helped Baltimore emerge as a unique icon of popular imagination. Director Barry Levinson brought a wistfully nostalgic vision of the city to life in films such as *Diner* (1977) and *Avalon* (1990). More recently, Levinson has helped illuminate a grittier side of Baltimore life in the critically acclaimed television drama *Homicide* (1992-1999). On the less mainstream side, film maker John Waters has created an image of Baltimore as a weirdly sweet (and occasionally shockingly strange) working class paradise in films such as *Pink Flamingos* (1972), *Hairspray* (1987), and *Pecker* (1998).

Popular culture also flourished in more rural areas of the region. Radio and the rising recording industry helped country music grow in popularity. Carved wooden decoys grew from everyday tools into a highly marketable art form. Collectors and curators from Baltimore, Washington, and other urban centers increasingly scoured the region's hinterlands in search of antique or homemade furniture, furnishings, paintings, and other folk arts. *The Waltons,* a popular television show that aired from 1972 to 1981 brought Virginia screenwriter Earl Hamner Jr.'s vision of an idealized close-knit rural family to American audiences at a time when political and cultural conflict threatened to tear apart the nation's social fabric. Popular culture also was expressed in sports stadiums; on playing fields; through folk art, furniture facades, and painted screens on the front stoops of urban neighborhoods (see Figure 115); and in urban mural painting.

Figure 115: Baltimore Folk Art: Painted screen depicting the nearby Lazaretto Lighthouse on the door of an Elliott Street row house in Baltimore's Canton neighborhood, 1990. (Photograph by Elaine Eff courtesy of the Painted Screen Society of Baltimore, Inc.)

Museums, conservatories, theaters, auditoriums, and schools supported the fine arts in the region's cities and universities. Regional architects, writers, and artists created structures, objects, and landscapes reflecting a range of cultural tastes. Styles have ranged from the streamlined lines of the art deco and art moderne styles of the 1930s, through the realism of the war years, the abstract expressionism of the postwar decades, and the futuristic simplicity of the modernists during the 1960s and1970s, to the mix of old and new favored by the postmodernist movement of the 1980s and 1990s.

A yearning for simpler times and values has been reflected in the colonial revival and historic preservation movements. During the 1930s, financier John D. Rockefeller poured millions of dollars into the restoration of *Colonial Williamsburg.* Places significant in American history, such as *Jamestown, Yorktown, Gettysburg,* and the *Chesapeake and Ohio Canal,* became national parks. The Historic Sites Act of 1935 established the National Historic Landmark program. Since that time, more than 100 sites of national significance in the region have been designated as landmarks through the program. Passage of the Historic Preservation Act of 1966 established State Historic Preservation Offices in every state and created the National Register of Historic Places to recognize sites of local and state significance. To date, more than 1,000 places in the region have been listed in the National Register.

Colonial Williamsburg, Jamestown, and Yorktown, Virginia

Chesapeake and Ohio Canal, Maryland

Gettysburg, Pennsylvania

□ SHAPING THE POLITICAL LANDSCAPE

A growing centralization of authority was required to regulate the vastly increasing, unprecedentedly mobile, consumption-oriented, and rapidly changing populations. Stone masons working in regional quarries cut marble, granite, and sandstone to adorn the facades of the increasing number of classical revival office complexes and gleaming monuments that rose at the center of Washington during the 1930s. Elsewhere in the region, federal public works projects funded road, dam, and park construction. Federal office buildings housing employees administering these and other programs rose in centrally located county seats.

During World War II, armies of framers, roofers, carpenters, plumbers, brick masons, and sheet metal workers built a huge number of barracks, warehouses, administrative complexes, and other structures in military bases and depots throughout the region. Constructed with inexpensive materials from standardized plans, most of these buildings were built for a specific purpose and were slated for demolition following the end of hostilities. Most, however, were maintained as growing tensions with the Soviet Union compelled the government to keep its bases open after 1945. The government increasingly used defense needs as justification for new public works and development projects. New limited-access superhighways funded through the 1956 Interstate Highway Act, for example, were made part of what came to be called the National System of Interstate and Defense Highways. United States Army Corps of Engineers contractors undertook numerous flood control and waterfront stabilization projects to protect American production centers and safeguard strategic resources.

Even education came to be regarded as a weapon in the Cold War. Citing the need for larger numbers of technicians and scientists to produce and operate sophisticated weapons systems, Congress passed the National Defense Education Act in 1958. Low interest student loans, research grants, and other funding provided by the act soon led to great growth in college campus construction. Established campuses were expanded, and new ones opened everywhere in the region.

Many new or larger colleges occupied military bases that had been turned over to state and local governments for reuse. Barracks and other structures were converted into classrooms, dormitories, and administration buildings. In state capitals, county seats, and other administrative

centers, new assembly halls, courthouses, office buildings, fire houses, and recreational facilities rose as city populations began spilling into growing suburbs throughout the region. Federal money funneled to local communities to fight wars on poverty, crime, and drugs built new health centers, police stations, prisons, and other facilities.

☐ DEVELOPING THE CHESAPEAKE ECONOMY

Unprecedented demographic, social, cultural, and political transformations led to revolutionary changes in the economy of the region. Despite depression and periodic economic downturns, producers and wholesalers brought ever larger amounts of goods to growing markets in and beyond the region by using more efficient and productive extraction, processing, manufacturing, and distribution systems. New rail, surface, water, and air transportation systems could carry larger cargoes to markets faster and more efficiently (see Figure 116). That made possible the import and export of greater amounts of durable goods. New preservation and storage techniques allowed greater stockpiling and wider distribution of perishable produce. Greater quantities of goods crowded onto shelves of growing numbers of specialty shops and ever larger and more complex department stores. Imposing glass and steel office buildings rose in urban and suburban centers as corporations and financial institutions grew in size and influence.

Figure 116: Union Station Looking South Toward the Capitol, the Potomac, and the National Airport, 1973. (Photograph by the U.S. Environmental Protection Agency courtesy of the National Archives)

Figure 117: Aerial View of Saint Mary's City. (Photograph courtesy of the Saint Mary's City Commission)

Postwar prosperity, the shift from an economy based on producing goods to one increasingly focused on providing services, the rise of the automobile, and the growth of affordable air travel greatly expanded the economic value of tourism in the region. The natural charms of the *Blue Ridge*, *Catoctin Mountain*, and other scenic locales attracted visitors in ever-growing numbers. Colonial Williamsburg and other historic restorations became national attractions. Well preserved historic locales, such as Maryland's *Saint Mary's City* (see Figure 117) and the Virginia towns of *Fredericksburg* and *Waterford* also benefitted from heritage tourism. Hunting and sport fishing grew in economic importance. Outfitters throughout the region supplied rods, reels, and other gear to sport fishermen going after trout, pickerel, and other game fish. During hunting season, hunters sought out deer, duck, and turkey on public lands and private game preserves. Those who could afford it hired boats and pilots at local ports to fish for striped bass in the Bay or marlin, yellowtail, and other game fish in the warm offshore gulf stream currents coursing several miles out from the Atlantic's shores.

Blue Ridge Mountains, Virginia

Catoctin Mountain, Maryland

Saint Mary's City, Maryland

Fredericksburg and Waterford, Virginia

☐ EXPANDING SCIENCE AND TECHNOLOGY

The political economy of the period provided support for extraordinary scientific and technological expansion. Financed

LANDSCAPE TOWARD THE FUTURE: THE LUNAR LANDING RESEARCH FACILITY.
Located at the Langley Research Center, Hampton, Virginia, and completed in 1965 at a cost of $3.5 million, this facility was constructed by NASA as a training simulator to prepare Apollo astronauts to deal with problems associated with lunar landing maneuvers. The facility's main structure is a 400-foot-long and 230-foot-wide steel A-frame erected on a sandy, pockmarked base resembling the lunar landscape. Astronauts trained in a full-scale lunar excursion module artfully slung on cables suspended from a hydraulically powered crane mounted on a steel overhead traveling bridge. By skillfully shifting the module's center of gravity, a crane operator could cancel out up to five-sixth's of the earth's gravity; about the same force astronauts would encounter on the Moon. Suspended in a similar way from slings and cables slung from a trolley running on overhead tracks, individual astronauts could also experience the effects of lunar gravity during simulated lunar test walks on the facility's base.

Neil Armstrong and Edwin Aldrin logged many hours of training time at the facility while preparing for their successful landing on the Moon on July 19, 1969.

Figure 118: Landscape Toward the Future: The Lunar Landing Research Facility, Langley Research Center, Hampton Virginia. (Photograph courtesy of the National Aeronautics and Space Administration)

by government funds, encouraged by industries hungry for innovation, and stimulated by developments elsewhere, Chesapeake Bay region scientists and technicians made contributions that left a lasting impact on the regional cultural landscape. Scientists working in universities, military laboratories, and federal research facilities in and around the Baltimore-Washington corridor made breakthrough discoveries in physics, chemistry, and electronics. These and other discoveries permitted development of radical new technological advances such as the transistor, jet and rocket reaction propulsion engines, nuclear power generation, and plastics, rayon, dacron, nylon, and other synthetics. At facilities such as the *Aberdeen Proving Ground* and *Patuxent Naval Air Station* in Maryland, and Virginia technological centers such as *Langley Research Center* and the *Atomic Energy Commission's Continuous Electronic Beam Accelerator Facility* in Newport News, technicians continue to perfect technologies that apply the results of pure scientific research. The National Emergency Medical System is an example of the kind of practical application of basic research first developed in the region.

Aberdeen Proving Ground and Patuxent Naval Air Station, Maryland

Langley Research Center and Atomic Energy Commission's Continuous Electronic Beam Accelerator Facility, Virginia

☐ TRANSFORMING THE ENVIRONMENT

A population committed to the idea of progress and development was able to transform Chesapeake Bay environments in ways their ancestors would not have thought possible. Because wood has become less economically important and agricultural production has decreased, the total number of acres covered by forest has increased. But most other environmental indicators in the region have clearly shown signs of significant degradation since 1930. Most analysts agree that pollution, overexploitation, and development have been the primary causes of this disturbing trend. Poisons and sediment flowing into the Chesapeake from the Susquehanna River, for example, have all but wiped out submerged aquatic vegetation in northern parts of the Bay and have seriously reduced it farther south. Overharvesting and habitat destruction have

significantly reduced annual hauls of oysters, clams, and fin-fish. Pesticides and indiscriminate over-hunting have threatened the survival of hawks, owls, eagles, waterfowl, and other birds. Numbers of fur-bearing otters, beavers, and minks have shrunk catastrophically, and only small numbers of bears, bobcats, and other wildlife survive in remote portions of the *Great Dismal Swamp* and isolated sections of the upland Piedmont.

Vast expanses of land in and around regional cities and suburbs have been buried beneath landfill or covered with pavement. Enormous tracts of low lying fertile bottomlands have been covered by waters rising behind dams built by power utilities and water companies throughout southeastern Virginia and the Maryland Piedmont. Toxic waste dumps poison the land near many old industrial sites, and layers of heavy metals, chemicals, and nutrient runoff still leach into Bay waters from buried sediments. At the same time, higher cancer rates than ever before recorded have been reported throughout the region.

Since the 1970s, greater awareness of the impact of these environmental transformations has sparked efforts to reverse their effects. Today, strict federal and state environmental laws require that the impact on the environment be considered in all projects funded or regulated by federal agencies. Other laws require cities to lower smog-producing ozone and hydrocarbon emissions and mandate treatment of water prior to its discharge into waterways lands. And public-private partnerships such as the Chesapeake Bay Program coordinate efforts to lessen further the impact of non-biodegradable pollutants, restore damaged habitats, reintroduce bald eagles and other species that have been wiped out, and promote development in harmony with the region's environment.

☐ CHANGING ROLE OF THE CHESAPEAKE IN THE WORLD COMMUNITY

Visible evidence of America's changing role in the world community has become a key part of the region's cultural landscape. Washington's role as the cosmopolitan capital of the world's strongest superpower is shown in its buildings and in its monuments that commemorate great events and honor influential people. The capital district's differences between rich and poor are reminders of similar contrasts between developed and undeveloped nations.

Great Dismal Swamp, Virginia

Army, Navy, Marine, and Air Force bases throughout the region support forces required to project military power throughout the world. The wreck of the German submarine *U-1105* (see Figure 119), a war prize sunk in 1949 off Piney Point, Maryland during tests to determine the effectiveness of new explosives, mutely attests both to America's rise to world power in World War II and the nation's anxiety over maintaining its position in the Cold War that followed.

The Bay's importance as a major maritime trade center is shown by its well marked and maintained shipping lanes, its massive port facilities, and surviving examples of water craft constructed in the region, such as the *World War II liberty ship John Brown*–first built in Baltimore and now preserved as a historic site commemorating the contributions of the nation's merchant mariners in its home port. Jet aircraft flying in and out of Baltimore-Washington, Dulles, and other international airports bring the region within a few hours' flying time of the rest of the world. Throughout the region, microwave dishes mounted atop steel towers and mobile vans link the region into a global satellite communica-

World War II liberty ship John Brown

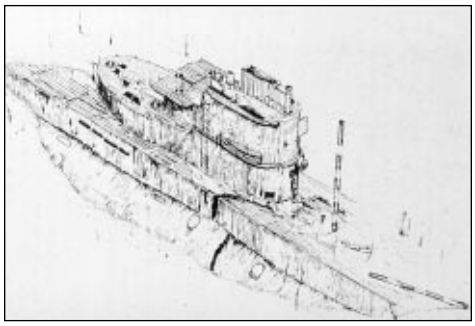


Figure 119: Landscape of Memory: The wreck of the U-1105.
(Sketch courtesy of the Saint Clements Island–Potomac River Museum and Maryland Historical Trust)

tion network, putting people into instant contact with one another everywhere on the planet. Larger radio telescopes maintained at civilian and military research centers reach ever farther into deep space, searching for new discoveries that promise undreamed-of reconsiderations of the nation's, and the world's, position in the universe.

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